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EXAMINER

PEFFLEY, MICHAEL F

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Applicant's argument, filed with the response of November 8, 2007, have been fully considered by the examiner now of record. The following is a complete response to the November 8, 2007 communication.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

Claims 16, 17, and 19-22 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sherman (U.S. Pat. No. 6,059,778).

Regarding claim 16, Sherman discloses a system for delivering RF energy to an endocardial tissue, the system comprising:

a catheter 30 having one or more electrodes 32, 36 proximate a distal end of the catheter, the catheter configured for being positioned such that the one or more electrodes are adjacent the endocardial tissue (Fig. 1), at least one of the electrodes including a tip electrode 36; and

a power control system 20 configured to provide power to the tip electrode (inherently capable of this intended use), the power having a plurality of alternating on portions and off portions, one set of adjacent on and off portions defining a duty cycle (col. 3, ln. 37-38 and col. 7, ln. 41-43, 63-67);

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wherein the power control system delivers an energy pulse of between approximately 0.01 ms to 4 ms (col. 7, ln. 44-52) via the tip electrode 36, and the on portions and off portions of the duty cycle have a ratio of between 50% - 100% (col. 7, ln. 44-52).

The claim further calls for the tip electrode to have a thermal time constant of approximately 240 ms. Since the ring electrodes 32 of Sherman comprise platinum (col. 6, ln. 36-41), it would be obvious, if not inherent, to have the tip electrode 36 also comprise platinum. Sherman further discloses that the tip electrode has a diameter of 2.3 mm, which is equal to 0.091 inches (col. 6, ln. 52-53). Since the tip electrode of Sherman comprises platinum and practically has the exact same diameter (0.091 inches vs. 0.094 inches) as the platinum tip of applicant's device, it would be obvious, if not inherent, for the electrode tip of Sherman to have a thermal time constant of approximately 240 ms.

Furthermore, applicant has not disclosed any criticality or unexpected result associated with having a thermal time constant of approximately 240 ms, since applicant discloses that the claimed system applies to "almost any electrode for RF ablation" (specification pg. 8, ln. 10-11).

Regarding claims 17 and 21, Sherman discloses the system of claim 16, wherein the duty cycle chosen ranges from 80% to 100%. The device of Sherman is inherently capable of operating at a duty cycle of 80% to 100%. In addition, applicant has not disclosed any criticality or unexpected result associated with this limitation.

Regarding claim 19, Sherman discloses the system of claim 16, wherein the RF energy has a period of between 120 ms and 240 ms. The device of Sherman is inherently capable of operating as claimed. In addition, applicant has not disclosed any criticality or unexpected result associated with this limitation.

Regarding claim 20, Sherman discloses the system of claim 16, wherein the RF energy has a period of greater than 240 ms. The device of Sherman is inherently capable of operating as claimed. In addition, applicant has not disclosed any criticality or unexpected result associated with this limitation.

Regarding claim 22, Sherman discloses the system of claim 16, wherein one of the one or more electrodes includes a ring electrode 32 (Fig. 1).

Claim Rejections - 35 USC § 103

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherman ('778).

Regarding claim 18, Sherman discloses the system of claim 16. Sherman, however, does not expressly disclose that the platinum tip electrode includes an approximately 5 mm tip with a diameter of approximately 0.094 inches.

At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to make the platinum tip electrode of Sherman have an approximately 5 mm tip with a diameter of approximately 0.094 inches because applicant has not disclosed that making the platinum tip electrode to

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include an approximately 5 mm tip with a diameter of approximately 0.094 inches provides an advantage, is used in a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with either the approximate dimensions of Sherman or the claimed approximate dimensions because on page 8, lines 10-11 of the specification, applicant states that the present system applies to almost any electrode for RF ablation.

Claims 16-22 are-rejected under 35 U.S.C. 103(a) as being unpatentable over Sherman ('778) in view of Sherman (U.S. Pat. No. 5,971,980).

Regarding claim 16, see. the previous rejection of claim 16. Sherman ('778) discloses a tip electrode 36 (col. 6, ln. 19-20 and Fig. 1) but does not expressly disclose that it delivers RF energy. Sherman ('980), however, discloses an analogous ablation probe comprising a ring electrode 26 and a tip electrode 22, which both deliver RF energy to tissue (col. 4, ln. 1-10 and Figs. 1 and 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have delivered RF energy from the tip electrode of Sherman ('788) in view of the teaching of Sherman ('980) as an obvious way of using a tip electrode that is well-known in the art.

Regarding claims 17-22, see the preceding rejections of claims 17-22.

Response to Arguments

Applicant's arguments filed November 8, 2007 have been fully considered but they are not persuasive.

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Applicant contends that there is no discussion of any details of delivering energy via the tip electrode, and that such a delivery is not inherent in view of this lack of disclosure. The examiner disagrees. Sherman clearly discloses that the device may comprise a tip electrode (36), or may comprise more electrodes than the four ring electrodes shown in the Figures. The examiner maintains that these electrodes would intuitively and inherently be used in the same manner. The inventor is clearly establishing the various different arrangements for the electrodes that may be used with the system. Moreover, applicant's assertion that there is no technical reasoning to support that energy would be provided to the tip electrode is not persuasive. Clearly, applicant intends to deliver energy to any alternative electrode configurations that may be contemplated. There would be no other reason to assume the tip electrode would be used in any manner other than in concert with the ring electrodes, and it would be inherent that it would necessarily be connected to the same power source. Regarding applicant's assertion that Sherman does not disclose a duty cycle ration between 50%-100%, the examiner again disagrees. As noted by applicant, Sherman discloses a duty cycle of 50% and 10%. The 50% duty cycle disclosure clearly reads on applicant's claimed range. Finally, the examiner maintains that the rejection above, repeated from the previous Office action, used proper logic and reasoning to establish that the tip electrode of Sherman would have the same thermal time constant as applicant's electrode. That is, Sherman discloses an electrode of the same size made of the same material. It would be inherent, or at least obvious, that it would have the same or a very

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similar thermal time constant. Applicant has proffered no explanation why two identically, or near identically, made electrodes would have different thermal constants.

With regard to the 35 USC 103 rejections, applicant mirrors the arguments made with respect to the anticipatory rejection. The examiner maintains that it is clear that the Sherman ('778) device would employ the tip electrode to be used in concert with the ring electrodes. Further, Sherman ('980) has been cited as a teaching that it is known to provide working tip electrodes. Regarding the thermal time constant, the examiner again reiterates that since applicant's electrode and the Sherman tip electrode are of the same size and made from the same material, they would inherently, or at least obviously, have the same thermal time constant. Again, applicant has provided no reasoning why this would not be the case, and applicant has asserted absolutely no criticality or unexpected result for the disclosed thermal time constant.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Peffley whose telephone number is (571) 272-4770. The examiner can normally be reached on Mon-Fri from 7am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak can be reached on (571) 272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael Peffley/
Primary Examiner, Art Unit 3739

/mp/
February 5, 2009